Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of measuring an object on a coordinate positioning apparatus, comprising the following steps, in any suitable order:

placing a first object on a coordinate positioning apparatus;

measuring said first object with a workpiece contacting probe to create measurement data of the first object, the measurement data being collected at multiple stylus deflections or probe forces;

for a plurality of points on the surface of said first object, extrapolating the measurement data to that corresponding to zero stylus deflection or zero probe force;

creating an error function or map from said measurement data and the extrapolated data;

measuring subsequent objects at a known stylus deflection or known probe force;

and using the error function or map to apply an error correction to the measurements of said subsequent objects.

2. (Original) A method according to claim 1 wherein the step of measuring the first object with a workpiece contacting probe comprises scanning the first object.

3. (Currently Amended) A method according to ~~any preceding claim~~claim 1 wherein the first object is measured at a slow speed.

4. (Currently Amended) A method according to ~~any preceding claim~~claim 1 in which the first object is measured at a slow speed, and further comprising the additional steps of:

measuring said first object with a workpiece contacting probe at a fast speed to create measurement data of the first object, the probe having a known stylus deflection or known probe force;

comparing the extrapolated measurement data corresponding to zero stylus deflection or zero probe force at the slow speed with the measurement data at the fast speed;

wherein the error function or map created from the measurement data relates to the measurement data at the fast speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.

5. (Currently Amended) A method according to ~~any preceding claim~~claim 1 in which the first object is measured at a fast speed and further comprising the additional steps of:

creating a first error function or map from the difference between the measurement data at a predetermined stylus deflection or probe force at said fast speed and the extrapolated to zero data at the fast speed;

measuring said first object with a workpiece contacting probe at a slow speed to create measurement data of the first object;

applying the first error function or map to the measurement data created during the slow measurement run;

wherein said error function or map comprises a second error function or map relating to the difference between the measurement data obtained during the fast measurement at said predetermined known stylus deflection or known probe force and the measurement data corresponding to zero stylus deflection or zero probe force at said slow speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.

6. (Original) A method of measuring an object on a coordinate positioning apparatus, comprising the following steps, in any suitable order:

placing a first object on a coordinate positioning apparatus;

measuring said first object with a workpiece contacting probe at a slow speed to create measurement data of the first object, the measurement data being collected at multiple stylus deflections or probe forces;

for a plurality of points on the surface of said first object, extrapolating the measurement data to that corresponding to zero stylus deflection or zero probe force at said slow speed;

measuring said first object with a workpiece contacting probe at a fast speed to create measurement data of the first object, the probe having a known stylus deflection or known probe force;

comparing the extrapolated measurement data corresponding to zero stylus deflection or zero probe force at a slow speed with the measurement data at the fast speed;

creating an error function or map from the comparison of measurement data;

measuring subsequent objects at a known stylus deflection or known probe force at the fast speed;

and using the error function or map to apply an error correction to the measurement of said subsequent objects.

7. (Original) A method of measuring an object on a coordinate positioning apparatus comprising in any suitable order, the steps of:

(a) placing a first object on a coordinate positioning apparatus;

(b) measuring said first object for a measurement run with a workpiece contacting probe at a fast speed to create measurement data of the first object, the measurement data being collected at multiple stylus deflections or probe forces;

(c) for a plurality of points on the surface of said first object, extrapolating the measurement data from step (b) to that corresponding to zero stylus deflection or zero probe force at the fast speed;

(d) creating a first error function or map for the relationship between measurement force error and stylus deflection or probe force from the measurement data obtained in step (b) and the extrapolated to zero data at said fast speed in step (c);

(e) measuring said first object with a workpiece contacting probe at a slow speed to create measurement data of the first object, the probe having a known stylus deflection or known probe force;

(f) applying the first error function or map of step (d) to the measurement data created during the measurement run in step (e) and thereby determining the measurement data of the first object corresponding to zero stylus deflection or zero probe force at the slow speed;

(g) creating a second error function or map relating to the relationship between the measurement data obtained at a fast speed for a known stylus deflection or probe force and the measurement data corresponding to zero stylus deflection or zero probe force at said slow speed determined in step (f);

(h) measuring subsequent objects at a known stylus deflection or known probe force and fast speed; and

(i) using the second error function or map created in step (g) to apply an error correction to the measurements obtained in step (h).

8. (Original) A method of measuring an object on a coordinate positioning apparatus, comprising the steps of:

placing a first object on a coordinate positioning apparatus;

measuring said first object with a workpiece contacting probe, to create measurement data of the first object, the measurement data being collected at multiple probe forces;

for a plurality of points on the surface of said first object, extrapolating the measurement data to that corresponding to zero probe force;

creating an error function or map;

measuring subsequent objects at a known probe force;

and using the error map to apply an error correction to the measurements of the subsequent objects.

9. (Original) A method of measuring an object on a coordinate positioning apparatus, comprising the following steps in any suitable order:

placing a first object on a coordinate positioning apparatus;

measuring said first object at a first speed, comprising one of a fast and slow speed, with a workpiece contacting probe to create measurement data of the first object, the measurement data being collected at multiple stylus deflections or probe forces;

for a plurality of points on the surface of said first object, extrapolating the measurement data to that corresponding to zero stylus deflection or zero probe force and thereby zero probing force error;

measuring said first object at a second speed, comprising the other of a fast speed and a slow speed, with a workpiece contacting probe to create measurement data of the first object;

using the extrapolated measurement data of the first object at the first speed and the measurement data of the first object taken at the second speed to determine the measurements of the first object corresponding to zero probing force error and zero dynamic error;

creating an error function or error map relating the measurements of the first object corresponding to zero probing force error and zero dynamic error and the measurement data of the first object at a fast speed and given stylus deflection or probe force;

measuring subsequent objects at a know stylus deflection or known probe force at the fast speed; and

using the error function or map to apply an error correction to the measurements of said subsequent objects.

10. (New) A method according to claim 2 wherein the first object is measured at a slow speed.

11. (New) A method according to claim 2 in which the first object is measured at a slow speed, and further comprising the additional steps of:

measuring said first object with a workpiece contacting probe at a fast speed to create measurement data of the first object, the probe having a known stylus deflection or known probe force;

comparing the extrapolated measurement data corresponding to zero stylus deflection or zero probe force at the slow speed with the measurement data at the fast speed;

wherein the error function or map created from the measurement data relates to the measurement data at the fast speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.

12. (New) A method according to claim 3 in which the first object is measured at a slow speed, and further comprising the additional steps of:

measuring said first object with a workpiece contacting probe at a fast speed to create measurement data of the first object, the probe having a known stylus deflection or known probe force;

comparing the extrapolated measurement data corresponding to zero stylus deflection or zero probe force at the slow speed with the measurement data at the fast speed;

wherein the error function or map created from the measurement data relates to the measurement data at the fast speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.

13. (New) A method according to claim 2 in which the first object is measured at a fast speed and further comprising the additional steps of:

creating a first error function or map from the difference between the measurement data at a predetermined stylus deflection or probe force at said fast speed and the extrapolated to zero data at the fast speed;

measuring said first object with a workpiece contacting probe at a slow speed to create measurement data of the first object;

applying the first error function or map to the measurement data created during the slow measurement run;

wherein said error function or map comprises a second error function or map relating to the difference between the measurement data obtained during the fast measurement at said

predetermined known stylus deflection or known probe force and the measurement data corresponding to zero stylus deflection or zero probe force at said slow speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.

14. (New) A method according to claim 3 in which the first object is measured at a fast speed and further comprising the additional steps of:

creating a first error function or map from the difference between the measurement data at a predetermined stylus deflection or probe force at said fast speed and the extrapolated to zero data at the fast speed;

measuring said first object with a workpiece contacting probe at a slow speed to create measurement data of the first object;

applying the first error function or map to the measurement data created during the slow measurement run;

wherein said error function or map comprises a second error function or map relating to the difference between the measurement data obtained during the fast measurement at said predetermined known stylus deflection or known probe force and the measurement data corresponding to zero stylus deflection or zero probe force at said slow speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.

15. (New) A method according to claim 4 in which the first object is measured at a fast speed and further comprising the additional steps of:

creating a first error function or map from the difference between the measurement data at a predetermined stylus deflection or probe force at said fast speed and the extrapolated to zero data at the fast speed;

measuring said first object with a workpiece contacting probe at a slow speed to create measurement data of the first object;

applying the first error function or map to the measurement data created during the slow measurement run;

wherein said error function or map comprises a second error function or map relating to the difference between the measurement data obtained during the fast measurement at said predetermined known stylus deflection or known probe force and the measurement data corresponding to zero stylus deflection or zero probe force at said slow speed;

and wherein the subsequent objects are measured at a known stylus deflection or known probe force at the fast speed.